

WHAT IS CLAIMED IS:

1. A fuel cell, comprising:
an anode for oxidizing liquid fuel;
a cathode for reducing oxygen; and
an electrolyte membrane for insulating said
anode from said cathode,

wherein said fuel cell has a construction of a hollow support, and said anode, electrolyte membrane, and cathode are disposed on the outer peripheral surface of said hollow support to form a generator section, and said fuel is brought into contact with the inside of said hollow support, and gas containing said oxygen is brought into contact with the outside of said generator section.

2. A fuel cell generator, wherein a fuel cell, having an anode for oxidizing liquid fuel, a cathode for reducing oxygen, and an electrolyte membrane for insulating said anode from said cathode, has a construction of a hollow support; said fuel cell generator includes a fuel cell unit in which a plurality of fuel cells each having a generator section formed by said anode, electrolyte membrane, and cathode disposed on the outer peripheral surface of said hollow support are connected and a vessel for storing said liquid fuel, said generator sections being connected electrically to each other; and power is generated by supplying said liquid fluid from said vessel into said hollow support.

3. The fuel cell generator according to claim 1, wherein a diffusion layer is disposed around said cathode.

4. The fuel cell according to claim 1, wherein said hollow support has electronic conductivity.

5. The fuel cell according to claim 1, wherein a holding material for holding said liquid fuel is filled into said hollow support.

6. The fuel cell according to claim 1, wherein a plurality of generator sections comprising said anode, electrolyte membrane, and cathode are disposed on the outer peripheral surface of said hollow support, and said generator sections are electrically connected to each other.

7. The fuel cell according to claim 2, wherein said vessel for storing said liquid fuel has an exhaust hole of a gas-liquid separation type.

8. A fuel cell generator, wherein said fuel cell generator has a plurality of fuel cell units in which a fuel cell has a construction of a hollow support, and an anode for oxidizing liquid fuel, a cathode for reducing oxygen, and an electrolyte membrane for insulating said anode from said cathode are formed on the outer peripheral surface of said hollow support in the order of said anode, electrolyte membrane, and cathode, and a diffusion layer is disposed around said cathode, whereby at least one generator section is formed, said generator sections being connected

electrically to each other; and said fuel cell units are connected to a fuel vessel for storing said fuel so that said fuel is supplied from said fuel vessel to each of said fuel cell units, said fuel cell units being connected electrically to each other.

9. The fuel cell generator according to claim 8, wherein said fuel is aqueous solution of methanol.

10. A portable power source, wherein said portable power source is configured so as to include a fuel cell generator in which a fuel cell has an anode for oxidizing methanol, a cathode for reducing oxygen, and an electrolyte membrane for insulating said anode from said cathode; said fuel cell has a construction of a hollow support, and has a plurality of generator sections consisting of an anode, electrolyte membrane, cathode, and diffusion layer on the outer peripheral surface of said hollow support, said generator sections being connected electrically to each other to form a fuel cell unit; and a plurality of said fuel cell units are connected to a vessel for storing liquid fuel, said fuel cell units being connected electrically to each other.

11. Portable electronic equipment, wherein a fuel cell has an anode for oxidizing methanol, a cathode for reducing oxygen, and an electrolyte membrane for insulating said anode from said cathode; said fuel cell has a construction of a hollow support, and has a plurality of generator sections consisting of an anode,

electrolyte membrane, cathode, and diffusion layer on the outer peripheral surface of said hollow support, said generator sections being connected electrically to each other to form a fuel cell unit; a plurality of said fuel cell units are connected to a vessel for storing liquid fuel, said fuel cell units being connected electrically to each other to form a fuel cell generator; and said portable electronic equipment has at least a secondary battery that is charged by a charger configured so as to include said fuel cell generator.

12. Portable electronic equipment, wherein said portable electronic equipment is driven by a fuel cell generator in which a fuel cell has an anode for oxidizing methanol, a cathode for reducing oxygen, and an electrolyte membrane for insulating said anode from said cathode; said fuel cell has a construction of a hollow support, and has a plurality of generator sections consisting of an anode, electrolyte membrane, cathode, and diffusion layer on the outer peripheral surface of said hollow support, said generator sections being connected electrically to each other to form a fuel cell unit; and a plurality of said fuel cell units are connected to a vessel for storing liquid fuel, said fuel cell units being connected electrically to each other.